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EXAMINER

HARRIS, STEPHANIE N

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| ART UNIT | PAPER NUMBER |
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3636

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AAH

Office Action Summary

Application No.

10/009,729

Applicant(s)

MIYATA ET AL.

Examiner

Stephanie N. Harris

Art Unit

3636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-13 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (USPN 5873630).

Regarding claim 1, Yoshida discloses a reclining apparatus that is comprised of a fixed plate (1a) with a first guide portion (9c) that has a pair of mutually opposing guide walls. A second guide portion (9d) also has a pair of mutually opposing guide walls as seen in Figure 4. A shaft (24) having an axis is provided in the fixed plate to allow the shaft to freely rotate about the axis. A rotary plate (2a) can relatively rotate around the shaft with respect to the fixed plate. An internal gear (21a) is formed along a circular arc around the rotary plate.

A first slide gear (12a) is received between the guide walls of the first guide portion and freely moves between a lock position, engaged with the internal gear, and a lock canceling position, which moves apart from the internal gear. A second slide gear (12b) is received between the guide walls of the second guide portion and can freely move between a lock position engaged with the internal gear and a lock canceling position, moving apart from the internal gear (Col. 4, lines 47-55).

A cam member (16) is provided between the first slide gear and the second slide gear as seen in Figure 4. The cam member simultaneously drives the first and second slide gears between the lock position and the lock canceling position (Col. 4, lines 47-55).

The cam includes a supporting portion has an inclined surface, along which the cam member and at least one of the first and second slide gears oppose one another, that prevents at least one of the first and second slide gears from moving in a direction of rotational moment applied to the slide gear due to a backward load applied to the seat back when the slide gear is in the lock position as seen in Figures 5a and 5b. The seat back is provided in a portion in which the cam member and the slide gear are opposed to each other as seen in Figures 5a and 5b.

Regarding claim 2, the cam member has a pair of hook portions that engage the receiving portions formed in the first and second slide gears as seen in Figure 5a. The hook portion and the receiving portion have a cam surface that presses the slide gear to the internal gear in a condition in which the cam member rotates in the direction of the lock position as seen in Figure 5b.

The hook portion and the receiving portion are formed in a shape that displaces the slide gear in an opposite direction to the rotational moment applied to the slide gear due to the backward load applied to the seat back when the cam member rotates in the lock canceling direction as seen in Figures 5a and 5b.

Regarding claim 3, the hook portion and the receiving portion are provided near a center line of the slide gear in an area inside both side surfaces of the slide gear.

Regarding claim 9, each of the two cam surfaces engage with the slide gear cam surface of the slide gears to prevent rotation of the rotary plate in one rotational direction relative to the fixed plate when the slide gears is in a first position (Col. 7, lines 23-43).

Regarding claim 10, a shaft (24) engages the cam member (16) via an opening in the cam member as seen in Figure 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8, 11, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (USPN 5873630) in view of Baloché et al. (USPN 5984413).

Yoshida et al. shows all of the teachings of the claimed invention but fails to show the use of an urging member disposed between the fixed plate and the rotary plate.

Regarding claims 7 and 8, Baloché et al. discloses an urging member (24) that is located between the fixed plate and the rotary plate as seen in Figure 2. The urging member helps to rotate the rotary plate in a direction in which the seat back tilts forward as seen in Figures 4-6.

Regarding claim 11, the spiral spring (24) is engageable with at a first end to the fixed plate (10) via a positioning convex indentation portion (located between elements 14 as seen in Figures 4 and 5) and at a second end with a holding member (26) as seen in Figure 2. The holding member is attachable to an edge of the rotary plate (11) as seen in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the reclining apparatus of Yoshida et al. with the urging member disposed between the fixed plate and the rotary plate, as shown by Baloché et al., in order to provide elastic means for the locking mechanism.

Regarding claim 12, Yoshida shows all of the teachings of the claimed invention but fails to show the use of a pair of rotation limiting extensions.

Regarding claim 12, Baloché discloses a pair of rotation limiting extensions (16) that can be used to limit the rotational motion of the rotary plate via sliding gears (14) and holding member (26) (Col. 5, lines 57- Col. 6, line 5; Col 6, lines 40-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fixed plate of Yoshida with the rotation limiting extensions, as shown by Baloché, in order to provide a plurality of fixed positions for the rotary plate.

Regarding claim 7, Yoshida et al. discloses that an engaging position is located between the first and second slide gears (12a, 12b) and the internal gear (21a). The center of the engaging position can be arranged on a line vertically crossing a line along a standard tilt angle of the seat back and passing through a center of rotation of the rotary plate (2a) as seen in Figure 4.

Regarding claim 8, Yoshida et al. discloses a pair of holding members (17d) which are provided in the fixed plate (1a) and rotably support the rotary plate (2a), thereby preventing the rotary plate from breaking away from the fixed plate. The holding members are provided close to the slide gears and the holding members are located within a circumferential width of the slide gears (12a, 12b) as seen in Figures 4 and 5b.

Regarding claims 12 and 13, Yoshida discloses a holding member (4A) that is located at an edge of the rotary plate as seen in Figures 3 and 4. The holding member includes a flange (4A) as seen in Figure 4. The rotary member is abutably held to the fixed member via the flange of the holding member as seen in Figure 3

Allowable Subject Matter

Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior and current art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to reclining apparatuses: US006085386A to Blanchard et al., and US 20020175548A1 to Asano et al, and US006039400A to Yoshida et al.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephanie N. Harris whose telephone number is 703-305-1838. The examiner can normally be reached on Monday-Friday from 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo, can be reached on 308-0827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

SNH



ANTHONY D. BARFIELD
PRIMARY EXAMINER

December 7, 2003